REMARKS

The Examiner's reconsideration of the application is requested in view of the amendments above and comments which follow:

Amendments

All of the independent claims 1, 15, 24, 33, 34, 35, 36, 37, 38, 39, 40 have been amended to recite "wherein the network has at least one base station which has at least two partitions or the network has at least two base stations, each having at least one partition". The basis for this amendment can be found in Figure 2.

In claims 1, 15, 24, 37 and 38, "which is" has been amended to "said fixed allocation of resource units being".

Claims 33, 34, 35, 39 and 40 have been amended to recite "a fixed allocation of resource units, said fixed allocation of resource units being the same for all user equipments of the network" to further clarify the scope of these claims.

Claim 36 has been amended to recite "said fixed allocation of resource units being the same for all user equipments of the network" to further clarify the scope of this claim. This amendment tracks claim 1 as filed.

Claim 2 has been amended to recite "wherein the number of resource." as suggested by the Examiner in section 1 of the office action.

Patentability

The invention described in the subject application is concerned with aspects of a telecommunication network which comprises one or more base stations, each base station having one or more partitions. Conventionally each user equipment in a given partition is allocated the same amount of resource units, without considering allocations across different partitions of the same base station or across partitions of different base stations.

The present invention provides a method and system for allocating the same amount of resource units for each user equipment across the whole network, that is to say, for all user equipments across all partitions of all base stations in the network.

Claim 1 as amended reads as follows:

1. A method for use in a wireless communications network for allocating spectral resource made up of a plurality of resource units in a multiple access wireless link extending between a partition of a base station and at least one child user equipment of the partition, wherein the network has at least one base station which has at least two partitions or the network has at least two base stations, each having at least one partition, the method comprising:

establishing a number of resource units making up a fixed allocation of resource units, said fixed allocation of resource units being which is the same for all user equipments of the network;

allocating the fixed allocation of resource units to each child user equipment in the partition.

Novelty

The Examiner rejected claim 1 as being anticipated by the Admitted Prior Art (APA).

However, contrary to the Examiner's assertions, the APA does not disclose "establishing a number of resource units making up a fixed allocation of resource units, said fixed allocation of resource units being the same for all user equipments of the network" when the mobile network comprises a base station having two or more partitions or two or more base stations each having one or more partition (see amended claim 1).

Instead it discloses providing a fixed allocation of resource units which is the same for all child user equipments within a parent partition of a base station. The paragraph cited by the Examiner actually confirms the above assertion: ".In the conventional system, the spectral resource of a parent partition is shared

equally among all its child user equipments and all spectral resource is reused at every partition." (See page 1, line 30 through page 2, line 6 of the present application, in particular, page 2, lines 4 -6 of the present invention.) Indeed the specification goes on to say: "Therefore, the number of resource units allocated to a child user equipment is dependent on the number of other child user equipments in that partition and so the number of resource units allocated to the child user equipments varies from partition to partition." (See page 2, lines 6 - 10 of the present invention.)

Claim 1 is thus not anticipated by the APA.

Nonobviousness

The present invention solves the technical problem of how to improve allocation of spectral resource among user equipments in a multiple access wireless network. Both the APA and Wu (US-2004/0125772) are concerned with this problem.

As explained above, the APA fails to teach or suggest "establishing a number of resource units making up a fixed allocation of resource units which is the same for all user equipments of the network". In fact the APA teaches against the present invention by providing a system where "the number of resource units allocated to the child user equipments varies from partition to partition", i.e. not the same for all user equipments of the network. (See page 2, lines 9 - 10 of the present invention.)

This system provided by the APA has been acceptable because ". there are generally many (ie. hundreds) of user equipments per partition and so the network load per partition does not vary much across the network." (See page 2, lines 17-19 of the subject application as filed.) Therefore the skilled person has no motivation to provide "a fixed allocation of resource units which is the same for all user equipments of the network".

Wu (US-2004/0125772) also fails to teach or suggest "establishing a number of resource units making up a fixed allocation of resource units, said fixed allocation of resource units being the same for all user equipments of the network"

when the mobile network comprises a base station having two or more partitions or two or more base stations each having one or more partition (per amended claim 1).

In fact Wu teaches against from the present invention by providing a system where "unequal bandwidths are allocated to different users in a given sector". "Rather, subsets, potentially unequal, of the assigned bandwidth in a given sector are assigned to users using an optimization process." (See page 4, paragraphs 70 and 71, page 5, paragraph 86 and Figs 4 and 5A of Wu.) As would be understood by the person skilled in the art, a "partition" of a base station is the same as a "sector" of a base station. (See 20 of Fig 2 of the present invention and 22, 24 and 26 of Wu.)

This also means that Wu is incompatible with the APA, since within a given sector/partition Wu allows the resource units to vary for different user equipments, whereas in the APA the resource units for different user equipments do not vary within a sector/partition.

Furthermore, in the APA, "all spectral resource is re-used at every partition" (see page 2, line 6 of the present invention), whereas, in Wu, "for any two adjacent sectors, the respective subsets only partially overlap". (See page 1, paragraph 7 of Wu.)

Therefore the skilled person would not and could not combine the APA and Wu.

Even if the skilled person were to combine the APA and Wu, he would not arrive at the method per amended claim 1 of the present invention, since neither the APA nor Wu discloses "establishing a number of resource units making up a fixed allocation of resource units, said fixed allocation of resource units being the same for all user equipments of the network" when the mobile network comprises a base station having two or more partitions or two or more base stations each having one or more partition (per amended claim 1) and, in fact, both Wu and the APA teach against providing such a feature, as mentioned above.

The differences in the technical effects of arrangements according to the APA and arrangements according to amended claim 1 can clearly be seen from consideration of an example of allocation of resource units according to both schemes.

Considering firstly allocation according to the APA, in the event that there is one child user in a partition, that child user will be allocated all resource units available in the partition. Considering secondly allocation according to amended claim 1, the step of "establishing a number of resource units making up a fixed allocation of resource units, said fixed allocation of resource units being the same for all use equipments of the network" per amended claim 1 uses a metric that ensures a fixed allocation among all units in the entire network. These fixed amounts of resource units are then allocated to each child user, per claim 1. In the event that there is only one child user in a given partition, and since a given partition is likely to have more resource units available than the number allocated to this one child user, this allocation results in wasted resource units for the partition but a commensurate improvement in C/I levels.

When considered against the teaching of Wu and the APA, an allocation scheme according to amended claim 1 is surprising.

In relation to the other reference cited in the office action, Hwang (US-2004/0097238), Hwang also fails to disclose "establishing a number of resource units making up a fixed allocation of resource units, said fixed allocation of resource units being the same for all user equipments of the network" when the mobile network comprises a base station having two or more partitions or two or more base stations each having one or more partition (per amended claim 1). In fact, Hwang teaches away from the present invention by providing a system where "frequency resources are assigned to a mobile station (MS) according to one of the distance between the MS and a BS, received signal strength, or interference from adjacent BSs." (See page 4, paragraph 65 of Hwang.)

Claim 1 is therefore novel and nonobvious in view of the APA, Wu and Hwang, either alone or in combination. The corresponding independent apparatus

claim 15 and all their dependent claims are thus novel and nonobvious for at least the same reasons.

Independent claims 24, 37 and 38 as well as amended independent claims 33, 34, 35, 36, 39 and 40 all contain the distinguishing feature of providing "a fixed allocation of resource units, said fixed allocation of resource units being the same for all user equipments of the network" and are therefore submitted to be patentable. Their dependent claims are thus patentable for at least the same reasons.

In view of the above, it is submitted that this application is now in condition for allowance. The Examiner's further and favorable reconsideration in that regard is urged.

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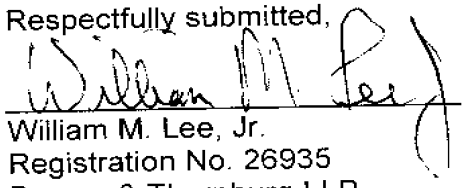
Respectfully submitted,



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